

Remarks

This is in response to the Official Action in this application dated October 23, 2003 reopening the prosecution.

Please note that the outstanding Official Action was incorrectly mailed to attorneys no longer the attorneys of record in this application. Kindly correct the Patent and Trademark Office's records to reflect the correct mailing address of the undersigned attorney for applicant. The Power of Attorney appointing the present attorney and revoking applicant's prior attorney was filed in this application on August 21, 2002.

In the Office Action Summary the indication of claims 1 - 111 pending is in error. Claims 1 - 11 and 13 - 22 were pending as of October 23, 2003. Claims 1 - 11 and 13 - 29 are now present in the application.

The examiner's allowance of claims 9 - 11, 13 and 14 at page 6, paragraph 13 of the outstanding Official Action is gratefully acknowledged. In the Office Action Summary the indication at line 7 that these claims are objected to is in error. No objection has been expressed as to these claims.

Newly presented claims 23 - 27 are claims in "means plus function" format that track the allowed method claims 9 - 11, 13 and 14. Claims 23 - 27 are allowable, it is urged, for the same reasons as the method claims 9 - 11, 13 and 14.

The examiner's objections to the drawings are noted. Submitted herewith are two additional drawing figures that meet the examiner's objections. The new figures show in block diagram form the gate driver that comprises a power amplifier as claimed in claim 6 and the floating power supply as claimed in claim 22. No new matter is included in the added figures as they are based upon the content of the application as originally filed including the claims. The Brief Description of the Drawings has been amended to reflect the added figures. The drawing sheets have also been renumbered 1/10 - 10/10 to take into account the two new sheets of drawings.

The objection to claim 15 has been noted. Claim 15 has been amended to call for "the controller coupled in controlling relation to a power factor correction circuit." This, it is urged, overcomes the examiner's objection to the "adapted to" language originally employed.

The accompanying supplemental information disclosure statement is to make of record the European patent No. EP 0 591 915 A cited in the international search report dated June 6,

2002 in international application PCT/CH01/00737 corresponding to this application. The European patent is categorized in the international search report as a "document defining the general state of the art which is not considered to be of particular relevance." The European patent is not believed of sufficient relevance to affect the patentability of the claims now present in the application, but is cited to avoid any erroneous implication of lack of candor on the part of the applicant.

Claims 1, 7 and 15 stand rejected as anticipated by the patent to Katyl et al. under 35 U.S.C. § 102(b). This rejection is respectfully traversed.

Independent claims 1 and 15 require use of the controller or the application of the control signal from the power factor control circuit to control the inrush current controlling provisions of the circuit.

Claim 1:

the active power factor correction circuit having a controller; and the inrush control circuit comprising at least one switch having a control element coupled to a control output of the controller.

Claim 15:

the controller coupled in controlling relation to:
a power factor correction control circuit; and
an active current limiting device,

In the Katyl et al. patent, biasing of the gate of a MOSFET 31 in Fig. 3C controls conduction through the MOSFET, either by-passing a resistor 30 or, when open, directing current through the current limiting resistor 30. This arrangement the applicant has acknowledged as not being new. The Katyl et al. circuit, however, does not use a signal from a power factor control (PFC) controller to turn the MOSFET on and off. To control the inrush current MOSFET 31, the Katyl et al. circuit uses the supply voltage to the power factor correction circuit on lines designated 26 in Figs. 2 and 3C. At column 3, lines 44 - 47, Katyl et al. explicitly describe that signal:

Signal 26 is the supply voltage used to provide power to the IC 14 via a bootstrap rectifier 26' connected to the secondary of inductor 15.

In the outstanding Official Action the examiner contends:

Claims 1 and 7, Katyl et al. disclose an active power factor correction circuit (figure 2) having a controller (26', resistor and capacitor of figure 2; i.e. controls power on/off function of 14 and controls circuit 27) and an inrush current control circuit (27) with a switch (34 of figure 3c) having a control element coupled to a control output of the controller, see figures 2 and 3c (27 and 70) and Col. 4 lines 53-55. Furthermore, the inrush circuit comprises at least one passive device (30).

Claim 15, Katyl et al. disclose passive device (30) of figure 3c; controller (26', resistor and capacitor of figure 2; i.e. controls power on/off function of 14 and controls circuit 27); power factor correction circuit (14,17); an active current limiting device (34 of figure 3c) connectable in parallel with passive device (30).

The feature 26' of Katyl et al. is not a controller, and the signal supplied to the power factor correction 1.C.14 of Katyl et al. is not a control signal and does not control the power factor control circuit. Katyl et al. says so:

Signal 26 is the supply voltage used to provide power to the IC 14 via a bootstrap rectifier 26' connected to the secondary of inductor 15.

col. 3, lines 45 - 48. In addition Katyl et al. state, referring to the inrush current limiting circuit:

The circuit is activated by an internal voltage normally present within the ballast to provide the control of the switching sequencing.

col. 2, lines 56 - 58.

Under no circumstances would someone skilled in the art understand the supply voltage to a circuit to be a "control output," nor would that person understand a bootstrap rectifier "that delivers the supply voltage to be a "controller." Yes, that voltage is used to "control" the switching sequencing that is used to effect inrush current protection, but it is not a control signal or voltage for the power factor correcting circuit. Calling the supply voltage to a circuit a control voltage is analogous to calling the household 120V supply to a household appliance a control signal or voltage. True, the appliance will not work if the voltage falls to zero, if say a breaker trips, but no one uses the term "control" in this sense. It is respectfully requested that the examiner apply to the terms of the claims their ordinary meaning as would one ordinarily skilled in the art.

The Katyl et al. patent does not teach claims novel and unobvious inrush protection circuit controlled by a power factor control circuit controller output. Claims 1 and 15, it is urged, are patentable over all art of record.

Claim 7 is dependent from claim 1. By its dependency claim 7 is patentable over the Katyl et al. patent for the reasons expressed with respect to claim 1.

Claims 2 - 6, 8 and 16 - 22 stand rejected under 35 U.S.C. § 103 as obvious over the Katyl et al. patent in combination with one or another of the patents to Cambier, Goel, Esser et al., Bernstein and Rinehart et al. or the publication of Divakar and Sutanto. None of these overcome Katyl et al.'s lack of a power factor correction controller output controlling the inrush protection circuit as discussed above with respect to claims 1 and 15. Each of these claims is in a line of dependency from one or the other of independent claims 1 or 15 and therefore includes the limitations of claim 1 or 15 discussed above. Combining Cambier, Goel, Esser et al., Bernstein, Rinehart et al. or Divakar and Sutanto with the teachings of the Katyl et al. patent cannot result in the content of the rejected claims 2 - 6, 8 and 16 - 22. None teaches the control of inrush current protective provisions by a power factor correction controller that is missing from Katyl et al. Each of claims 2 - 6, 8 and 16 - 22 is patentable over all art of record.

New claim 28 is dependent from claim 1. It makes explicit the distinction between (1) the supply voltage source that provides supply voltage to the power factor correction circuit and (2) the controller control output that controls the inrush current protective circuit. Claim 28 as dependent from claim 1 is patentable over all art of record. Allowance at this time is appropriate.

New claim 29 is dependent from claim 15. Like claim 28, it makes explicit the distinction between the supply voltage source and controller's control output that controls the active current limiting device. This claim too is patentable over all art of record. Allowance at this time is appropriate.

Should the examiner in charge of this application have questions or suggestions regarding the application, he is invited to contact the undersigned attorney for applicant by telephone or email using the contact information given below.

A one-month extension of time in which to respond to the Official Action is requested in the accompanying Request for Extension. The fee for the extension of time is enclosed. However, authorization is given to charge any additional fees associated with this communication to Deposit Account No. 070135.

With the foregoing it is believed that this application is now in condition for allowance and favorable reconsideration to that end is respectfully requested.

Respectfully submitted,

GALLAGHER & KENNEDY, P.A.



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By _____

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